OFW Operational Concepts

briefing to

NDIA
Full Spectrum Warfare Conference

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EAGLE ENTERPRISE
A General Dynamics Company

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Objective Force Warrior – Phase II

Phase IIA – Preliminary Design
Phase IIB – Detailed Design
Phase II Duration – 25 Months

- Refine system and subsystem design through spiral development process culminating with a ***detail design package and 2 TRL 5-6 prototype system of systems*** for Phase III.
- Phase IIA includes a Preliminary Design Review (PDR).
- The Objective Force Warrior Technical Program Office, PEO Soldier, and TRADOC will be a part of the PDR.
- Any weight reduction and power management schemes developed that can assist Land Warrior Blocks that are currently in development, will be identified and provided to PEO Soldier.

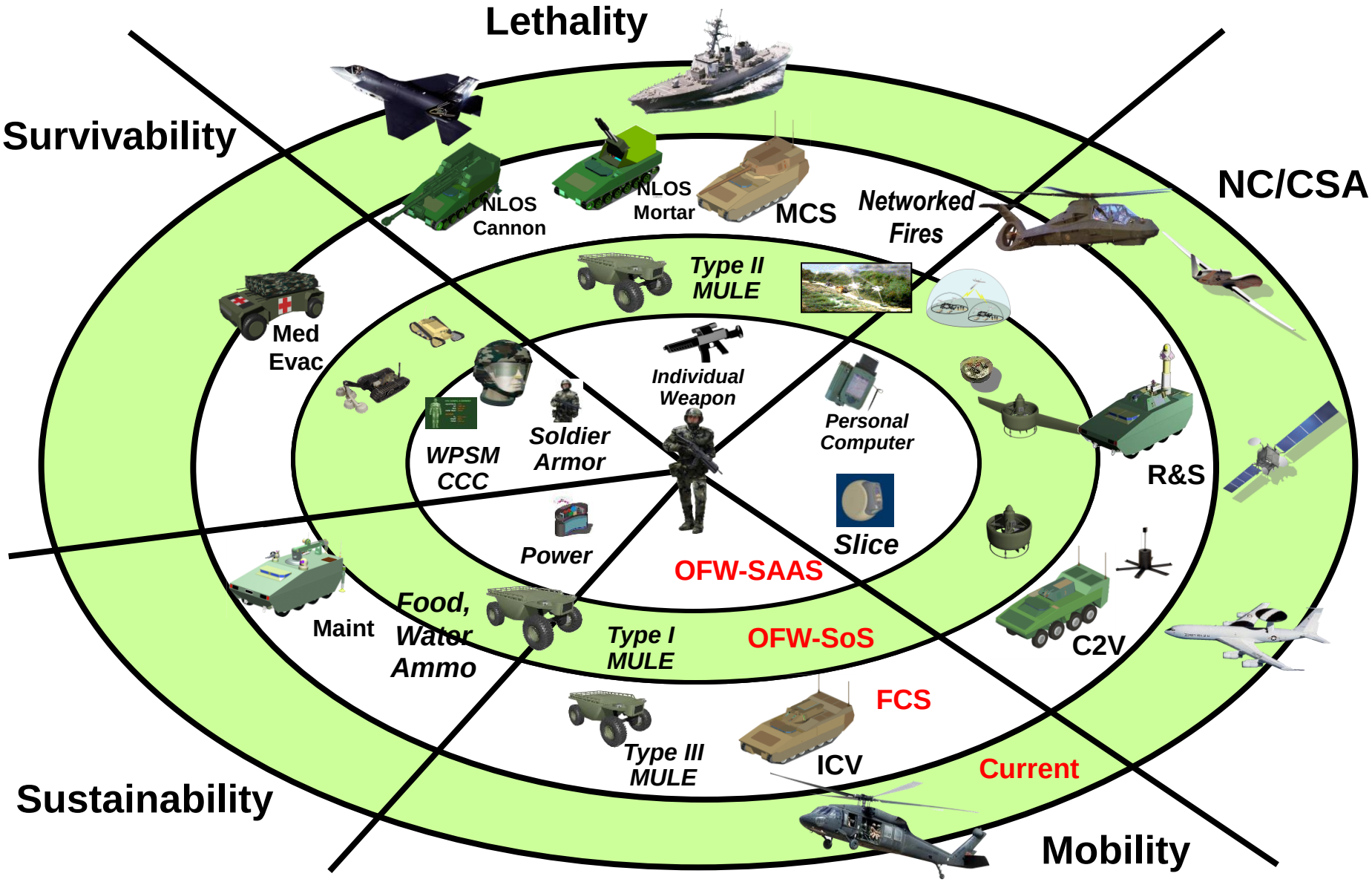
Eagle Team OFW Vision

- Soldier-Centric System-of-System Approach
- 10X Increase In Combat Effectiveness, Area of Influence, and Op Tempo
- Systems Fully Integrated, Interoperable, and Interfaced with the Unit Of Action Systems
- Formations Fully Devolve from UA forces
- Complete Integration and Capable of Independent Operations with Joint Assets
- Soldier Sub-System Modularity to Support Variants for all Soldiers in the Unit of Action
- Improved Battle Management, Command and Control, and Situational Awareness to Soldier SoS
- Enabled by Ubiquitous, Assured Network Communications
- Synoptic Coverage of Blue, Red, Gray Personnel, Systems, and Equipment in AOR
- Distributed, Forward Sensor Fusion (Warrior's Edge)
- Initial Standoff Engagements with NLOS/BLOS Networked Precision Fires (BLOS Mutually Supporting Fires)
- Holistic Approach to Soldier Survivability = Agility; Better, Lighter Soldier Armor; Signature Management
- Complete Ground/Air Soldier and Organizational Tactical Mobility (C-130; UH-60; Man-drivable)
- Enhanced Soldier Performance and Fightability In All Environments - 50 lb Fighting Weight Through Off-Loading to UGV
- Synchronized Anticipatory Sustainment
- Technologically Fieldable, Economically Affordable, and Adaptively Trainable Supporting Systems

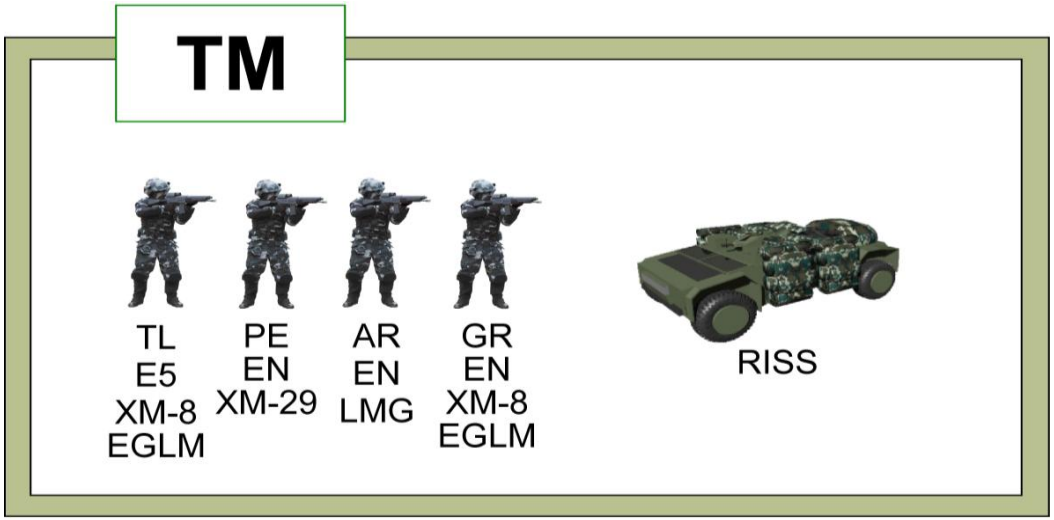
Eagle Team OFW Lethality Vision

- Initial Standoff Engagements with NLOS/BLOS Networked Precision Fires
- Ability to Mass Organic Effects/Fires in LOS/BLOS Mutual Support
- Strike Team and Squad maneuver and movement enabled by BLOS Mutually Supporting Fires
  - Combined-Arms Indirect Fires Organic to Squad (60mm)
  - Technical and Tactical Fire Control at Squad Level
  - Precision BLOS Pointing of Handheld Weapons
  - Effects NCO
- Layered Mix of Lethality at Squad Level
  - Precision Engagement Specialist
  - M203 – Advanced Grenade Launched Munition
  - Automatic Rifleman
- No Weapons Squad

OFW SoS External Interactions



Strike Team – OFW's Maneuver Formation



Baseline capabilities:

- Lowest Level Maneuver Element
- Command & Control of fire team
- Precision Engagement Specialist *
- Indirect Fire PE/Suppression
- Direct Fire Suppression
- Expanded sensor suite*
- Enhanced comms capability*
- Complementary reinforcing effects
- Provide BLOS mutual supports effects to adjacent unit
- Decentralized sensor fusion
- Self-sustain 24 Hr operation; stows additional 48 Hrs on MULE

* Technical specialty

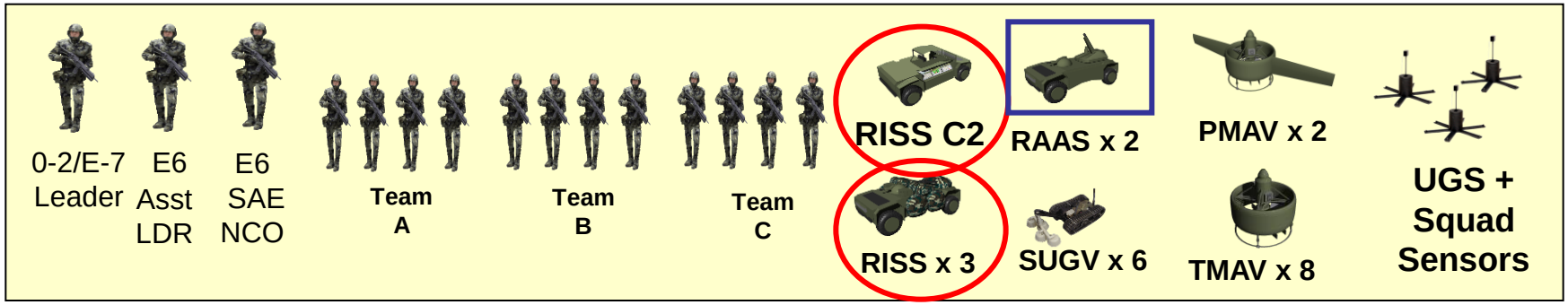
Training Implications

- Need platform-based computer computational power for reachback and on-board storage of TMs, FMs
- Update specialty skills – ADL
- Need ET capability for weapons, robots
- Costs include:
  - Facilities
  - Training Areas/Ranges
  - Installation infrastructure
  - TADSS

Why 4 Men?

- Primarily Capabilities-based
- Buddy system
- Redundant IF systems
- ICV transport

Eagle Squad – OFW's Combined Arms Formation



Baseline capabilities:

- Command & Control of multiple Strike Teams
- Dismounted C2/BM/SA tools
- Organic TTFC, networked fires capability
- Decentralized sensor fusion
- Organic SA and sensor grid management
- Organic IF capability (60/81mm mortar)
- Expanded ground and air sensor suite; employment management
- Enhanced Individual/organizational mobility
- Enhanced comms capability
- BLOS mutual supports effects to adjacent unit
- Increased area of control and influence

Why 3 Teams?

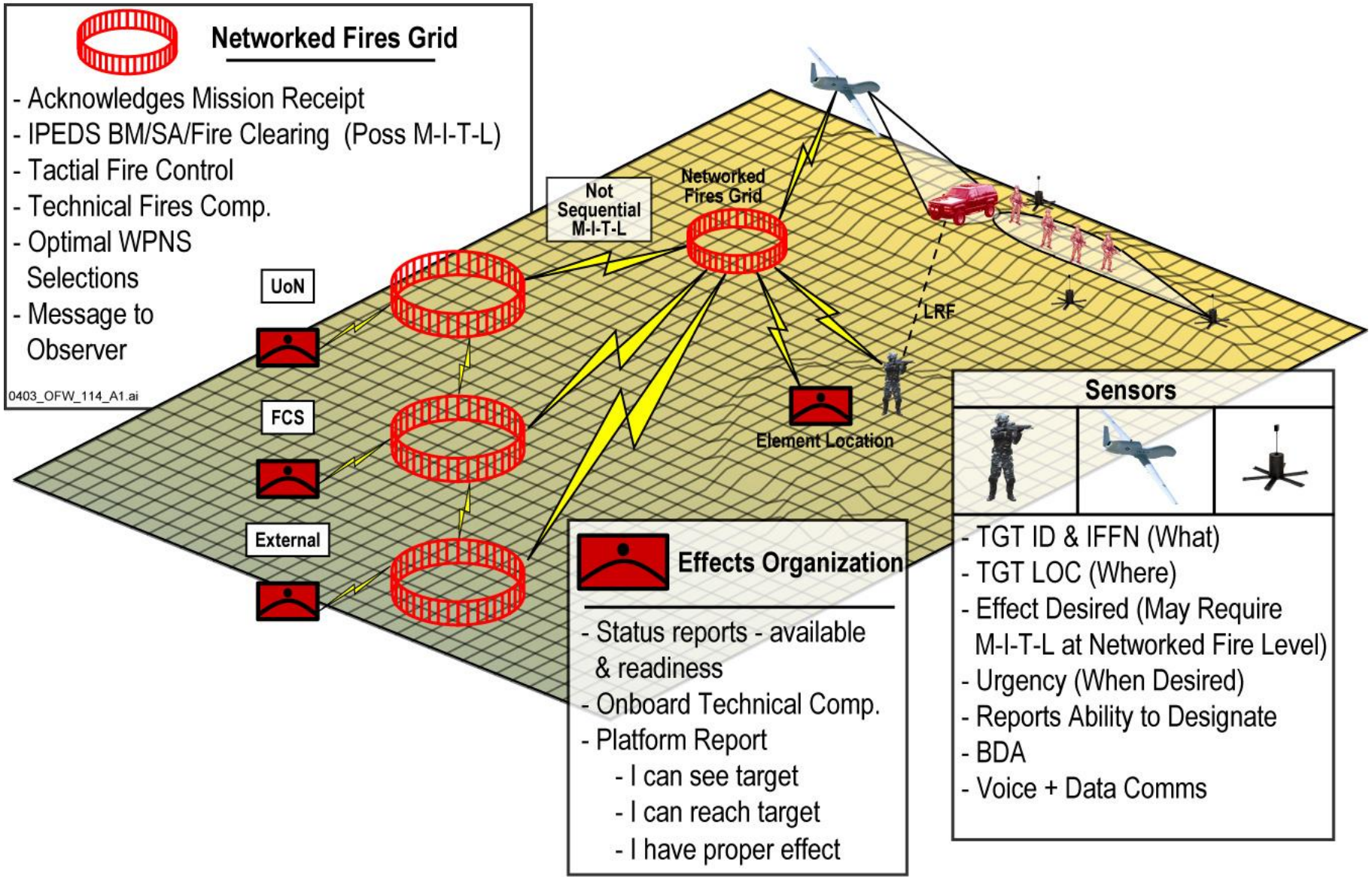
- Permits multi-directional assault
- Provides robustness to sustain loss
- 3-5 are normal span of control #s
- 4 may be needed for 24 hour ops
- # Teams are more mission, than TOE driven

Training Implications

- Institutional training for combined arms at leader level
- Need for training tools for C2/BM/SA
- Need team/squad TADSS

○ = FCS Type I MULE Variant ▭ = FCS Type II MULE

OFW Lethality OV-1

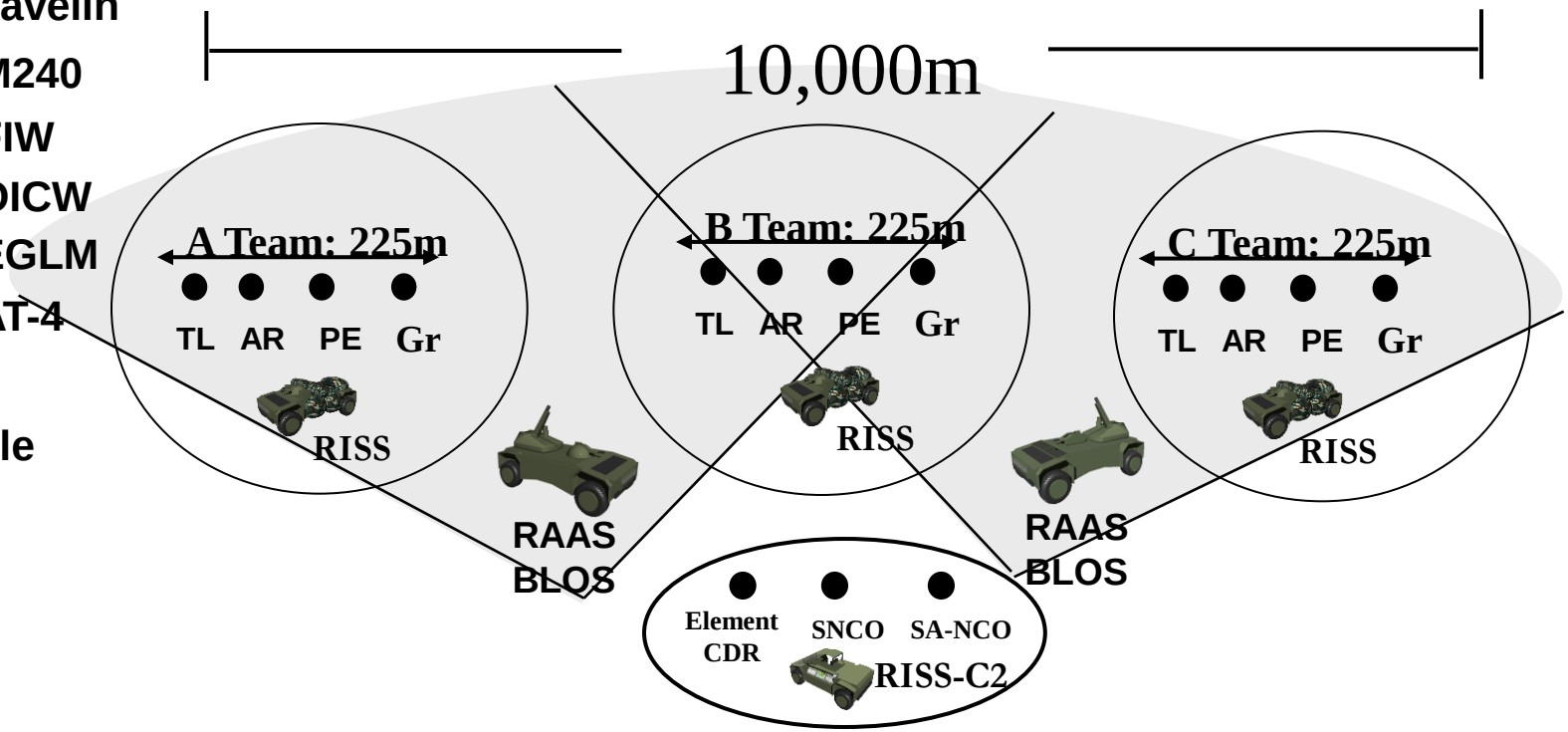


A 10x Increase in Capability Integrated Lethality Suite

Range	Weapon
4000m	Adv. Javelin
3500m	60/81mm Mortar
2500m	OCSW (RAAS)
2000m	Javelin
1100m	M240
600m	FIW
450m	OICW
350m	EGLM
300m	AT-4
0	

Not to Scale

T = Team Leader = OICW/EGLM
AR = Auto Rifleman = LWMG
Gr = Grenadier = OICW/EGLM
PE = Prec Eng Spec = FIW
RAAS = Mortar-Metal Storm/OCSW

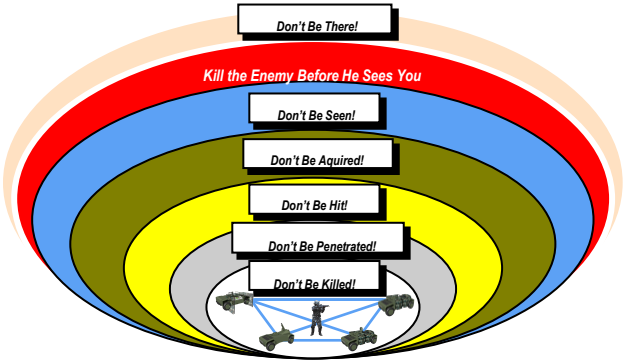


BACKUP

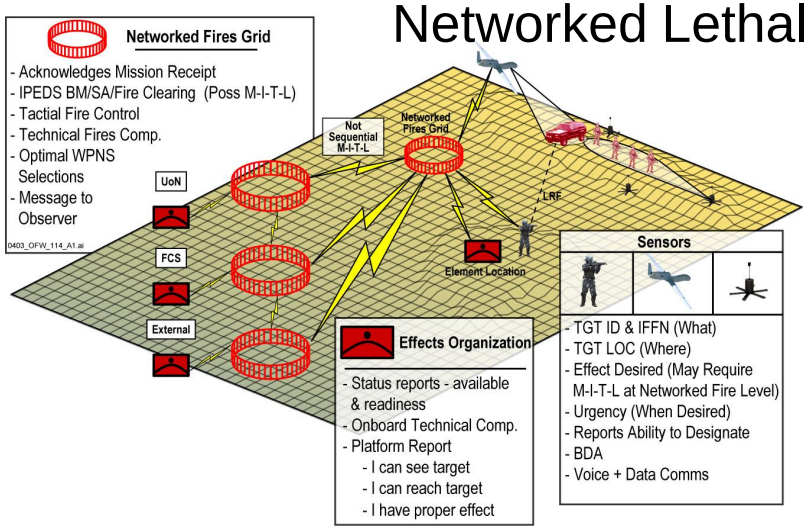
New & Improved Capabilities (FA Concepts)

Local Sensor Fusion

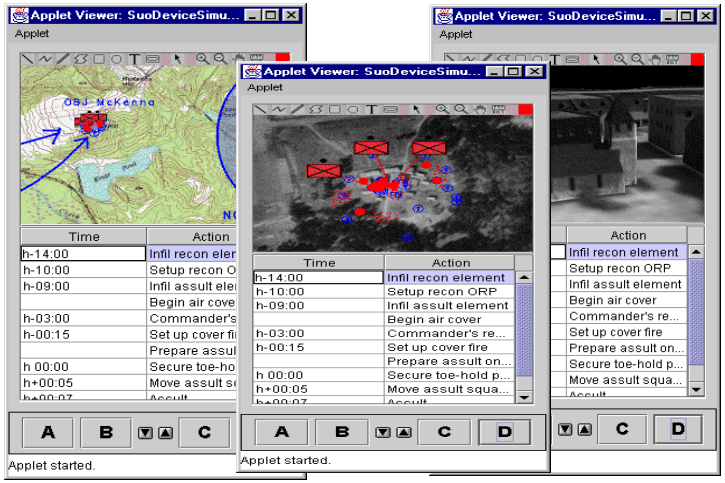
Enhanced Personal Protection



Squad-Level Networked Lethality

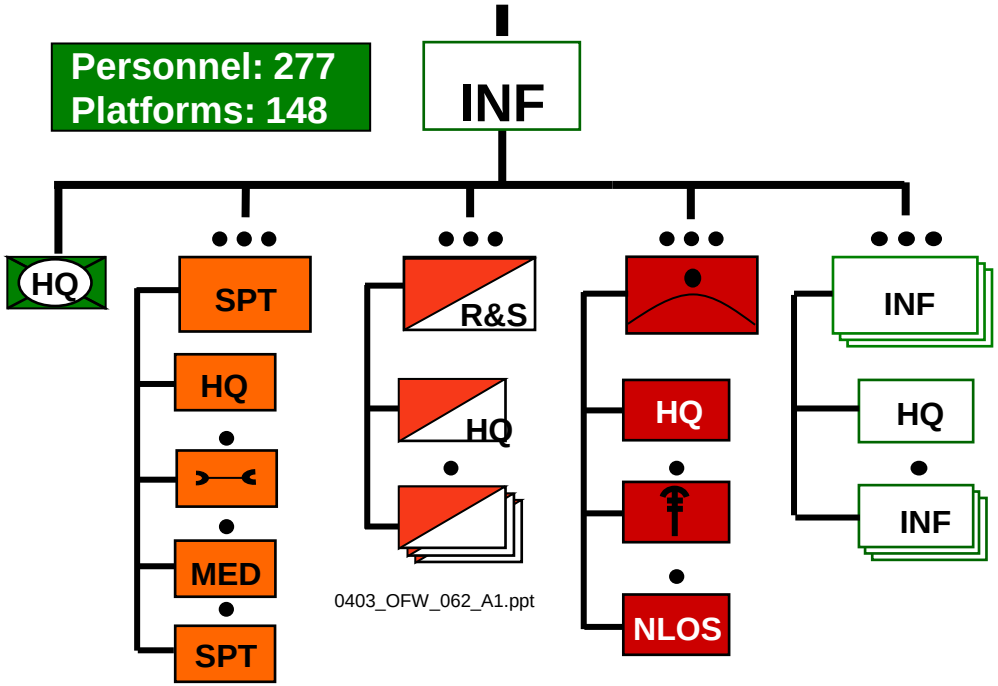


C2/BM/SA



Map-based display **Image-based display** **Site model**

OFW Company Task Force (Unit of eNgagement)



UoN
- Maint. Contact Teams
- Push Log to Squads
- 15 R&S Sections
  - Adv sensors; comms
  - MCM Kits
- Complete Effects Suite
  - AAAD
  - NLOS Mortar; MIB

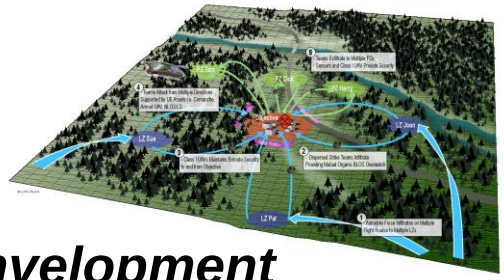
Design Concept
- **Developed for operations independent of FCS – fights as a member of Joint Force**
- **Operate in complex, close or mixed terrain capable**
- **Entirely C130J, UH-60 transportable, man-drivable or autonomous robotic navigation**
- **Devolved from UA assets w/ MULE variants**

	Pers	Veh	Towed Items	Short Tons
UoN	277	148	0	407
ABN Bn	676	76	17	509
Lt Inf Bn	572	45	6	260

OFW Support to FCS UA Operational Modes

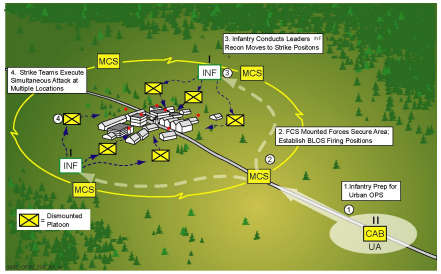
Mounted

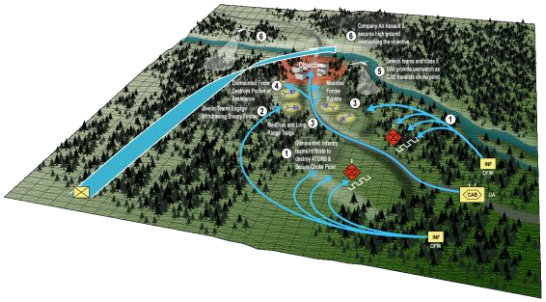
- Conduct enroute P&R
- Maintain SA and readiness



Vertical Envelopment

- Fully UH-60 transportable lethality packages
- Operational maneuver capability





Mounted s/b Dismounted

- Clear threat areas
- Overwatch close terrain
- Rapidly mount/dismount

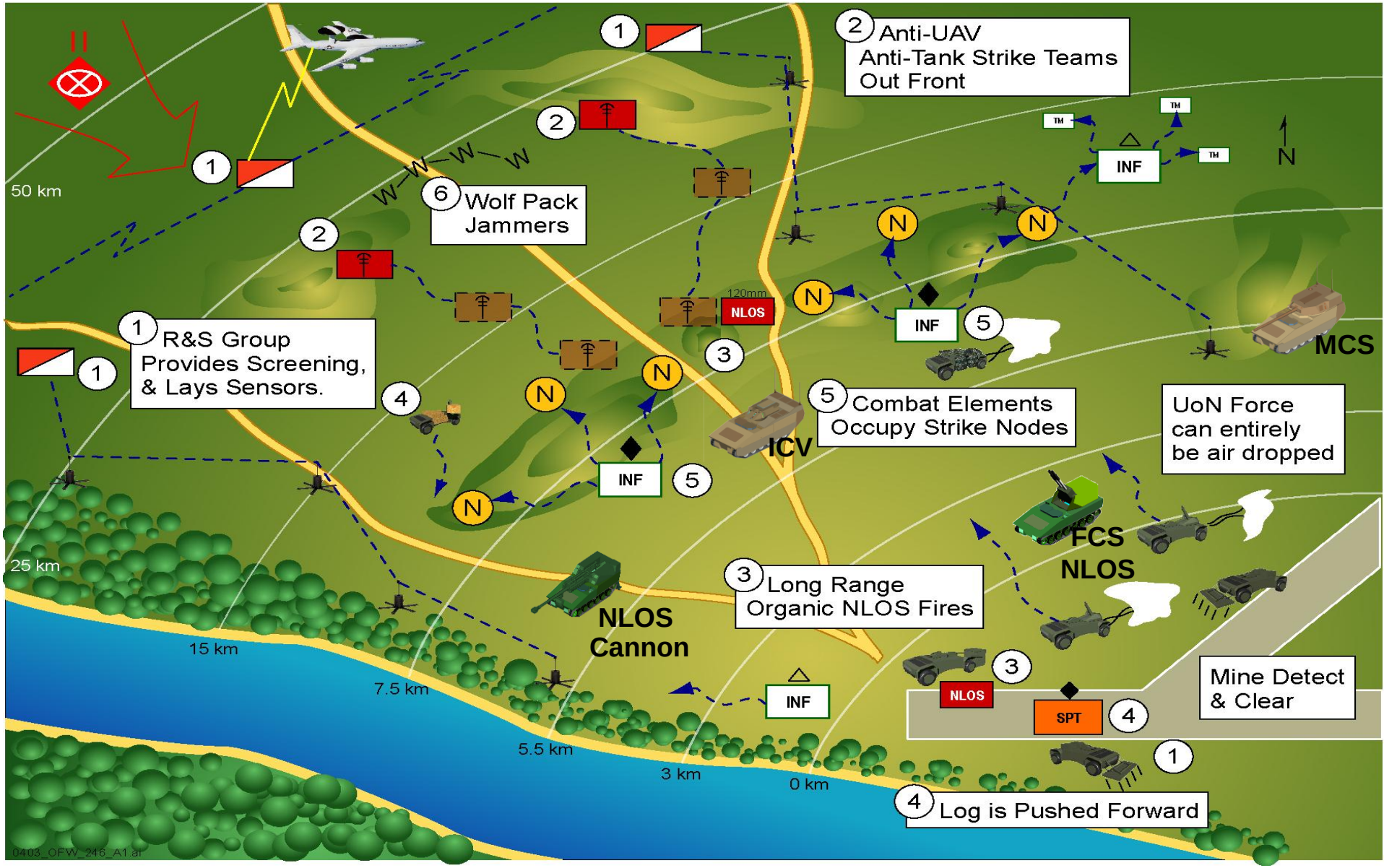
Dismounted s/b Mounted

- Operate in restricted terrain
- Gives UA distributed comms, sensor network

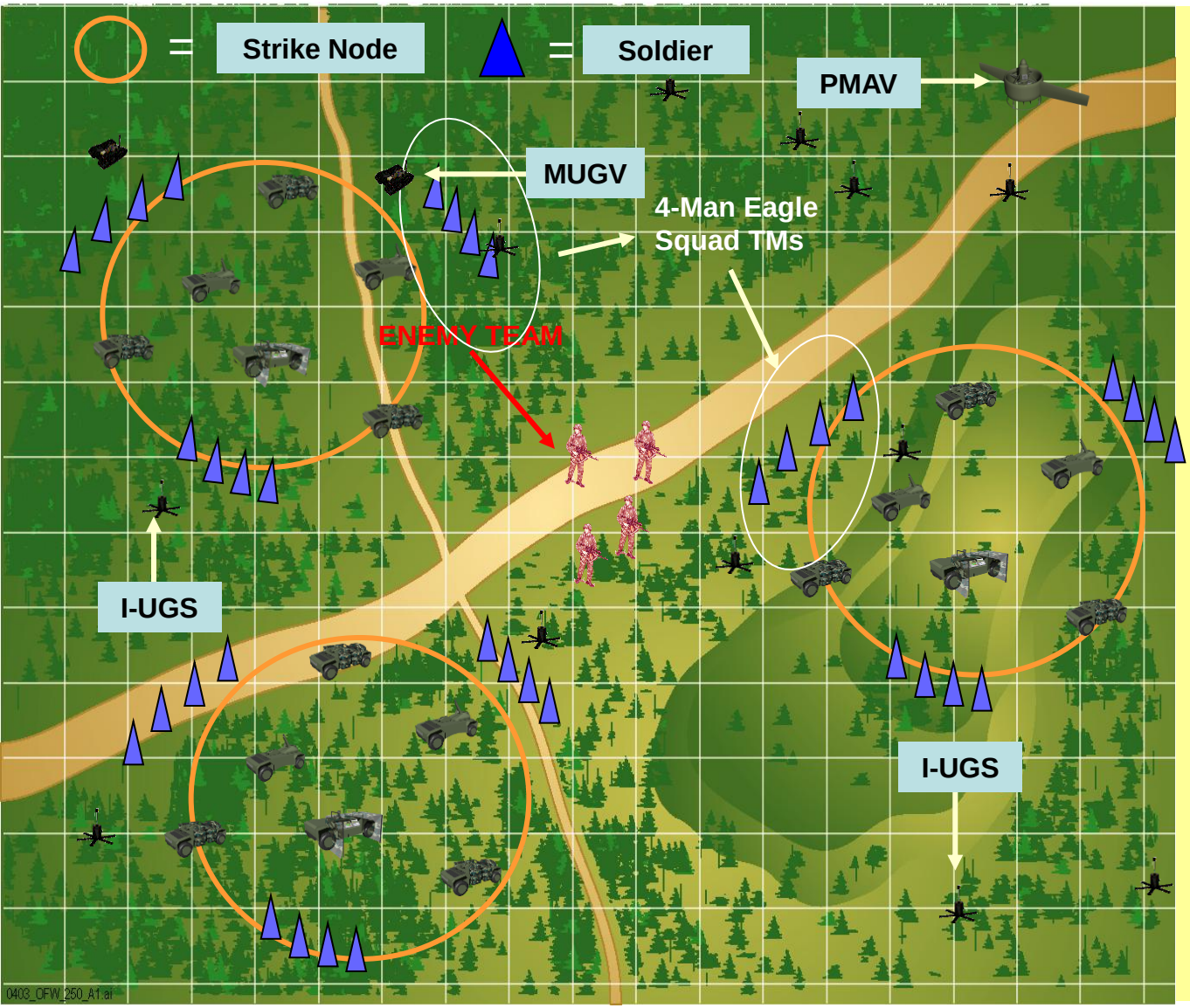
Dismounted

- Operate in close, complex terrain
- Operate in multiple environment

Mounted s/b Dismounted: Pulsed Strike Operations Boa

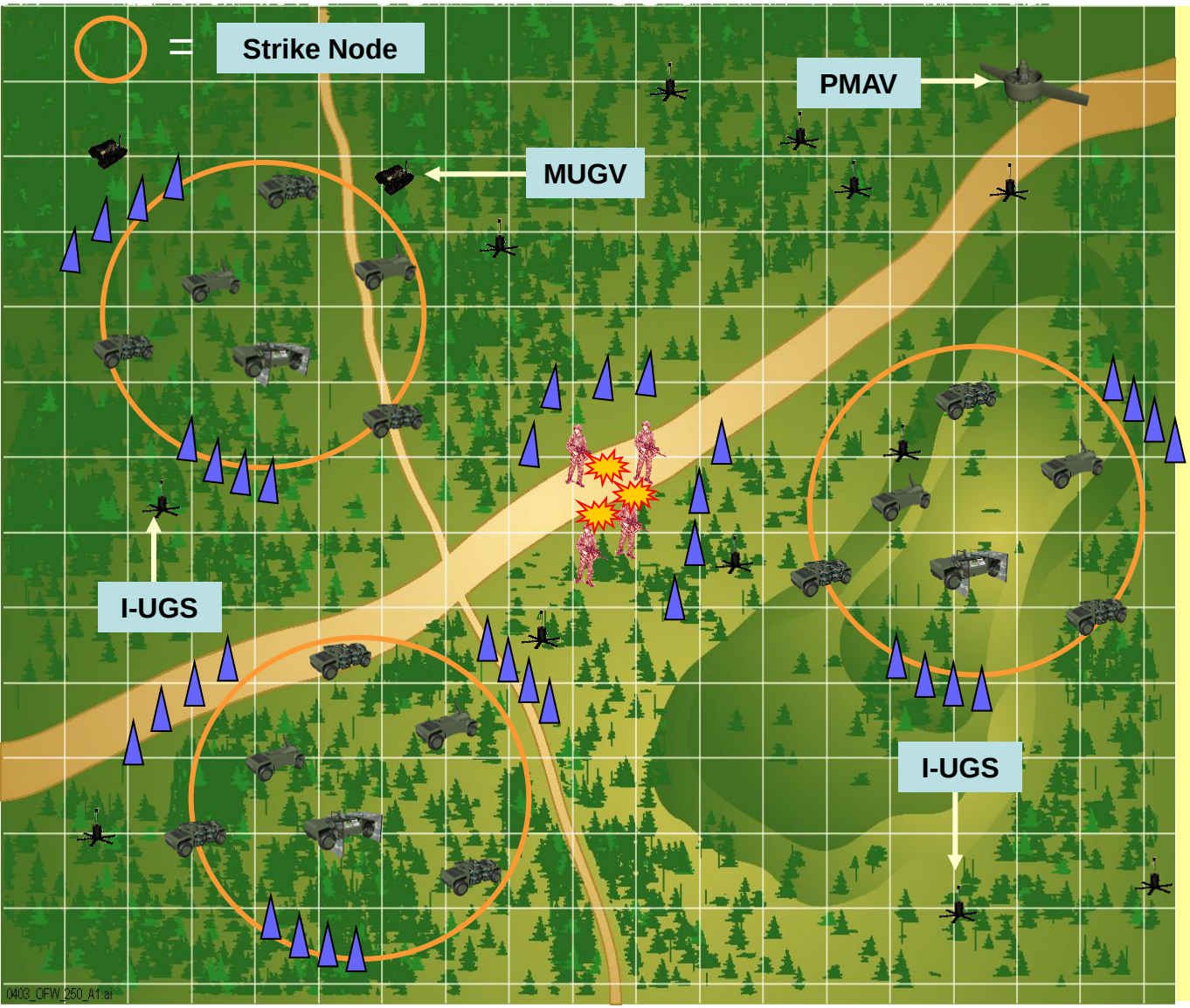


Dismounted Operations - PSO Cobra



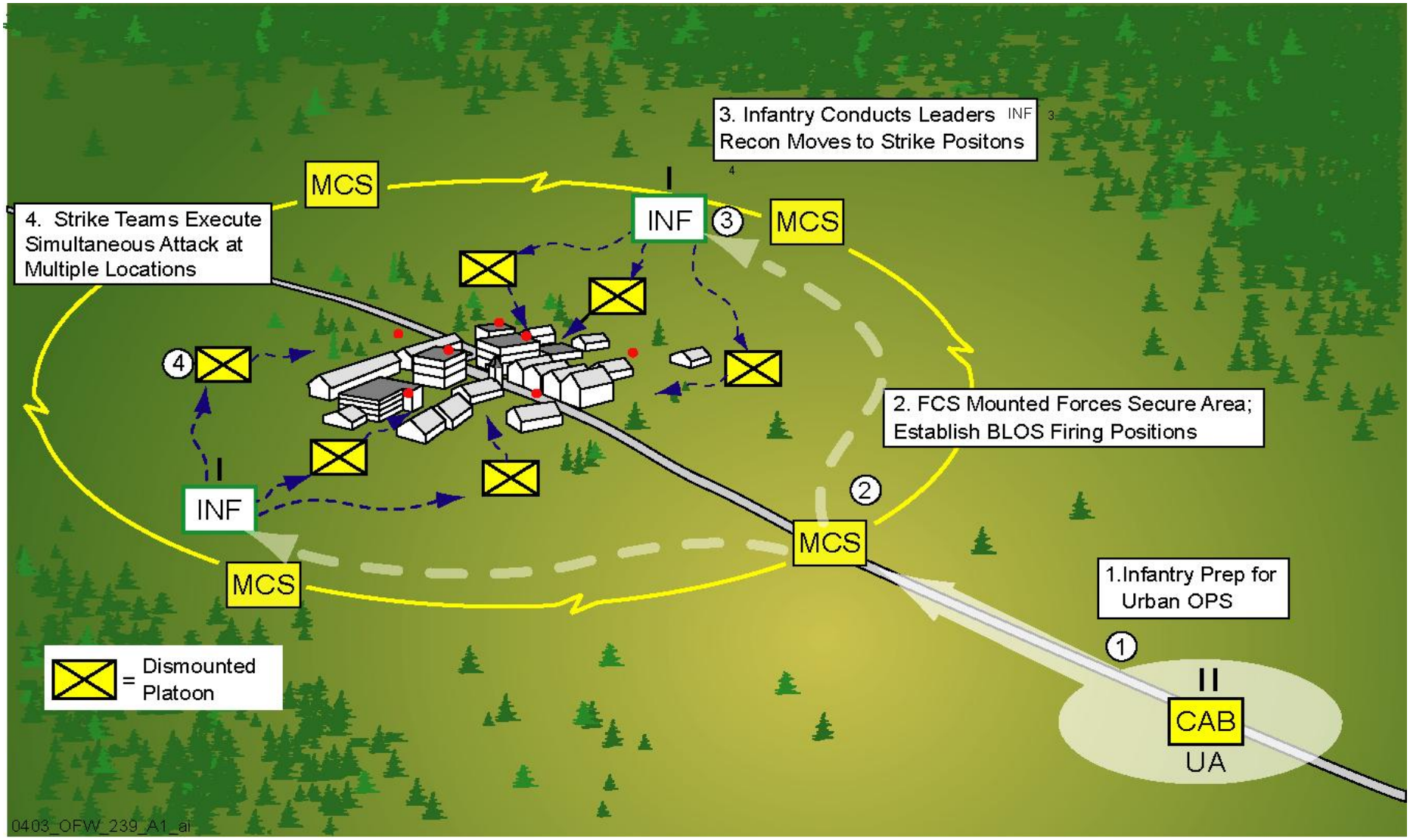
- Combat Group NC/CSA select Nodes
- Elements move into position and employ additional sensors
- Threat found, warning order issued, optimal Task Org identified for mission.
- Teams notified, begin to virtually rehearse ambush

Dismounted Operations - PSO Cobra (Contd)



- Combat Group NC/CSA select Nodes
- Elements move into position and employ additional sensors
- Threat found, warning order issued, optimal Task Org identified for mission.
- Teams notified, begin to virtually rehearse ambush
- Team move to strike location; C2 and comms established
- Participants link and validate 3D SA and CID issues
- Optimal ambush method employed

Dismounted s/b Mounted - PSO Viper



Key Operational Mission Needs

If You	Then You
Want wide area coverage	Must disperse forces
Disperse forces	Must organize to fight in small teams
Fight by teams	Must provide them capability to employ: • BLOS mutually supporting fires • Enhanced organic sensors • Enhanced NC/CSA
Provide BLOS fires	Must have precision fires with technical and tactical fire control
Speedy/timely attack	Must have other than ICV/LPC mobility; inter-node task orgs
Orchestrate a complex battle area	Must include appropriate battle staff in organization

Purpose of Objective Force Warrior (OFW)

- To develop a soldier systems of systems that provides all combat soldiers with superior capabilities to accomplish assigned tasks, conduct missions, and win decisively against all opponents.
- To enable soldiers to conduct dismounted maneuver with load bearing equipment and load not to exceed ***40 pounds*** over the course of a 24-hour mission, and must be sustainable with the Unit of Action (UA), which has a requirement to operate for 72 hours without re-supply.
- Equip all UA soldiers with OFW I and II (Land Warrior Block III and IV) systems.
- Develop variants of OFW that balance modularity with multi-functional integration that provide tailored and effective warrior capabilities for the various battlefield warrior functions with the UA.

Objective Force Warrior – Phase III

Phase III – Demonstration Build, Training, and Demonstration (DTD)
Phase III Duration – 16 Months

- ***Fabricate 50 demonstration prototype systems*** with a TRL of 6/7 (depending on final funding levels)
- Train demonstration unit personnel
- Train Government trainer personnel
- Verify system component and subsystem operation and interoperability
- The Army will perform experimentation with Lead Technology Integrator (LTI) support utilizing evaluation criteria developed during Phase I
- OFW system of systems tactical level experiments will be conducted by the Government in realistic operational environments, and will include, if available, evaluation with other Objective Force platforms such as the FCS and Comanche.
- During the Phase III demonstration, experimentation, and evaluation, the LTI shall perform analysis and corrective actions as required.